

NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

**INDIVIDUAL INFLUENCES ON HONOR CONCEPT
VIOLATORS AT THE U.S. NAVAL ACADEMY**

by

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June 2001

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NAVAL ACADEMY**

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Lieutenant, United States Navy
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Submitted in partial fulfillment of the
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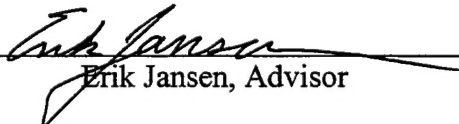
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ABSTRACT

This thesis examines the individual influences on midshipmen who violate the Honor Concept at the U.S. Naval Academy. Based on the theory of neutralization and drawing on previous research on dishonest behavior in college settings, the thesis hypothesizes that midshipmen who were exceptions to admissions standards are more likely to violate the Honor Concept. Unlike most previous studies that rely on self-reports through surveys, this study examined the records of midshipmen from the U.S. Naval Academy classes of 1996 through 2000. Logistic regression is used to identify statistically significant factors and the effect of each factor on the probability of Honor Concept violation. Statistically significant factors are athletic participation, race, academic major, military performance, and personality type. Controlling for other factors, midshipmen who were exceptions to admissions standards were found to be more likely to violate the Honor Concept.

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I. INTRODUCTION

A. BACKGROUND

For over 150 years, in times of peace and war, the United States Naval Academy (USNA) has provided the Navy and Marine Corps with honorable leaders prepared to give their lives in service to their country. For decades, the stated mission of USNA has remained constant: "To develop midshipmen morally, mentally, and physically...in order to provide graduates dedicated to a career of naval service." The mission statement deliberately cites moral development as a primary goal. Moral integrity has traditionally been fundamental to success in the profession of arms.

To be effective, all military forces rely on absolute confidence in the words of their officers. When naval officers are given responsibility for the lives of sailors or Marines, they are expected to execute their duties honorably. Perhaps more than in any other human experience, the extreme nature of combat requires a deep bond of trust among colleagues.

As an institution, USNA has prided itself on the high quality of the personal character in its graduates. Implicit in this pride is the belief that the four years "by the Bay" as a midshipman have meaningful effects on the character of graduates. These effects are ostensibly accomplished by both imbuing midshipmen with virtuous ideals and removing dishonorable midshipman from the ranks.

The Honor Concept is central to the development of character in midshipmen at USNA. Created by midshipmen themselves in 1951, the Honor Concept embodies the standards of integrity expected of midshipmen and the process through which those

standards are enforced. The Honor Concept begins simply, "Midshipmen are persons of integrity. They stand for that which is right" (USNAINST 1610.3F). The Honor Concept forbids lying, cheating, and stealing and provides for the possible expulsion of midshipmen who engage in such behavior.

Beginning with the fall 1992 electrical engineering (EE) cheating scandal, a series of embarrassing incidents called into question the effectiveness of character development at USNA. The administration undertook several reforms to correct the shortcomings highlighted by these incidents. A Department of Character Development was created to integrate character development with the rest of the curriculum. An honor "treatise" also was created in which midshipmen reaffirmed their commitment to personal integrity.

The electrical engineering cheating scandal exposed the tendency for violators of the Honor Concept to be disproportionately characterized by membership in certain groups. Forty-two midshipmen from the Class of 1994 were identified and punished in the EE cheating scandal. Of those 42 midshipmen, 17 were members of varsity sports teams and 21 were graduates of the Naval Academy Preparatory School. However, one of the more remarkable characteristics that many of the conspirators shared was less apparent. At least 18 were appointed to USNA despite not meeting the minimum requirements of the official admissions policy (Cochran & Malone, 1998).

B. PURPOSE

The purpose of this thesis is to examine the individual characteristics of USNA midshipmen who violate the Honor Concept. In particular, this thesis attempts to isolate the effect of being an exception to the Naval Academy's admissions standards the likelihood of a midshipman violating the Honor Concept. Using data catalogued by

USNA's Office of Institutional Research and records created by the Commandant of Midshipmen's Ethics Advisor, this thesis analyzes several variables expected to influence the likelihood of a given midshipmen violating the Honor Concept.

A cognitive process called neutralization, by which an individual permits him or herself to violate accepted group norms, is hypothesized to influence individual decisions to violate the Honor Concept. One of the several methods used by neutralizers to justify deviant behavior is "denial of responsibility" (Haines et al., 1986). For example, a midshipman may believe that he or she must lie or cheat just to remain at USNA because the courses and training are made so rigorous. Therefore, midshipmen who are only marginally qualified for admission may tend to engage in this type of neutralization.

This thesis examines the effect of being an admission policy exception on the likelihood that a midshipman would violate the Honor Concept. Specifically, the following hypothesis is tested:

Accounting for other factors expected to influence dishonest behavior, those midshipmen admitted to the U.S. Naval Academy as exceptions to its admissions policies violate the Honor Concept more frequently than other midshipmen.

To test this hypothesis, several possible influences on dishonest behavior were investigated to build a useful statistical model. Several additional research questions were addressed through building and testing the model:

(1) What are the factors that influence midshipmen to commit honor violations?

(2) Accounting for other factors, are honor violators disproportionately distributed in any demographic group, such as Naval Academy Preparatory School (NAPS) graduates or varsity athletes?

(3) Can the Naval Academy significantly reduce the rate of honor violations by altering its admissions policies?

Questions surrounding the effectiveness of the character development program at USNA persist. It is hoped that this study can add considerable insight to the current discussion. This study also may provide useful information regarding the admissions process at USNA.

C. DEFINITIONS

1. Honor Concept Violators

Several considerations complicate the classification of midshipmen as either violators or non-violators of the Honor Concept. First, as described in Chapter II, the adjudication process of honor violations at USNA is complex. Adjudication procedures provide for many alternative outcomes short of a final determination that a violation has indeed occurred (USNAINST 1610.3F). A case may be dismissed or referred for formal counseling without complete adjudication. Second, a case that has been adjudicated and determined by an honor board to be a violation may be reversed by reviews of the Commandant, Superintendent, or the Secretary of the Navy. Many cases that are manifest violations are dismissed or reversed because of liberal due process considerations (Naval Inspector General, 1994). Lastly, midshipmen may be separated from USNA for other reasons, such as unsatisfactory academic performance, prior to the adjudication of their alleged honor violations.

Due to these considerations, this thesis classifies midshipmen as violators if they are formally accused of an honor violation and if their case is not dismissed by the first review of the Brigade Honor Chairman. Classification by this standard relies on three

assumptions. First, this standard of classification is only for the purposes of this academic research. (No midshipman was personally identified in any way by this thesis, regardless if he or she was considered a violator.) Second, this standard identifies a sample of midshipmen that is closer to the actual population of honor violators than if any other standard were applied. Lastly, this thesis assumes that false or baseless accusations are extremely rare. The possible consequences of being accused of an honor violation are grave. Additionally, USNA provides extensive training on the Honor Concept to all midshipmen, faculty, and staff. Further, arbitrary accusations are themselves deterred by the possibility of administrative punishment.

2. Admissions Policy Exceptions

Midshipmen are considered to be exceptions to the admissions standards based on the Superintendent's official guidance to the Admissions Board and on direct empirical analysis of admissions records. Midshipmen are considered admissions exceptions if they failed to meet any one of the following four requirements: (1) overall candidate multiple minimums, (2) math SAT minimums, (3) verbal SAT minimums, and (4) high school class rank minimums.

The USNA Admissions Board relies largely on SAT scores and an overall quantitative scale called the "whole-man candidate multiple" (Admissions Guidance for the Class of 2005, 2000). To determine the multiple, first a "raw" candidate multiple is computed. The raw candidate multiple is a quantitative estimation of a candidate's relative ability to successfully complete four years at USNA. The multiple is heavily based on SAT scores, high school class rank, and high school extra-curricular activities. The raw candidate multiple also includes many other less-weighted factors, such as

scores derived from secondary school teacher recommendations and a test designed to estimate the likelihood that the candidate would choose an engineering major.

Once the raw candidate multiple is computed, it may be adjusted up to 10,000 points by a recommendation by the Admissions Board (RAB). RABs are given to candidates based on a qualitative review of their entire application records and can be either positive or negative (Guidance for Recommendations of the Admissions Board, 2000). Frequent recipients of positive RABs include repeat candidates who have done well at other colleges or legacy candidates who are from families of service academy graduates. Negative RABs can be given to candidates for reasons such as suspension from school or criminal or juvenile offenses. The RAB is added to the raw candidate multiple to arrive at the whole-man multiple.

Although the stated admissions policy requires candidates to have a minimum whole-man multiple of 58,000 (Admissions Guidance for the Class of 2005, 2000), the practical standard of the USNA admissions policy is that candidates should have at least a 60,000 whole-man multiple. Candidates in the sample were granted admission without meeting this requirement, but more frequently, candidates with normally inadequate admissions scores were given RABs to barely exceed the 60,000 requirement. Evidence of this practical standard is illustrated by the comparison of figures 1.1 and 1.2. Figure 1.1 is the distribution of the raw candidate multiple for all admitted midshipmen in the classes of 1996 through 2000. Figure 1.2 is the distribution of the whole-man multiple for the same midshipmen. A normal distribution reference line is provided in both figures. There is a noteworthy spike in the distribution of RABs precisely at the 60,000 level of the whole-man multiple. The raw candidate multiple approximates a normal

Figure 1.1
Distribution of Raw Candidate Multiple

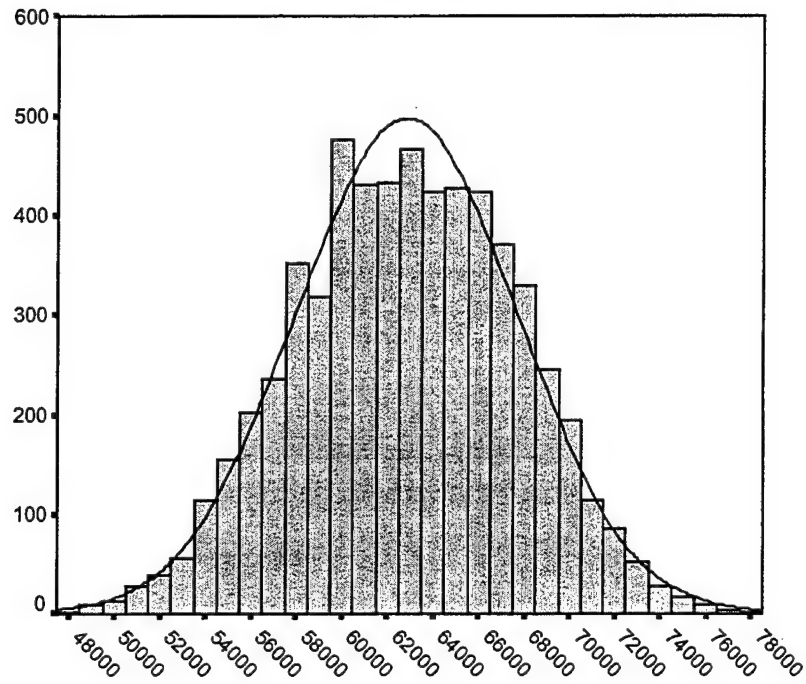
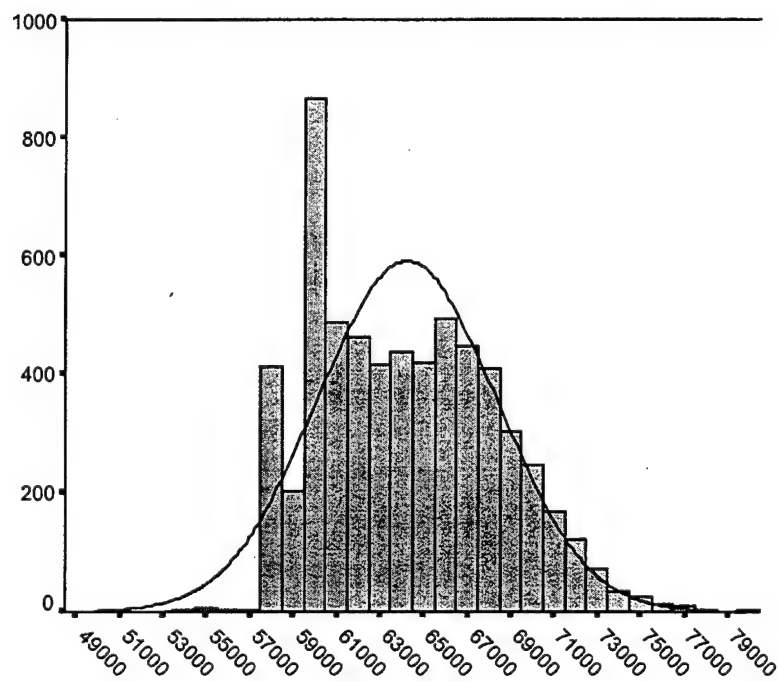


Figure 1.2
Distribution of Whole-Man Multiple



distribution, but the whole-man multiple distribution shifts a large number of midshipmen who possessed below a 60,000 raw candidate multiple rightward so that they would have acceptable whole-man multiples. For this reason, this thesis considered the minimum raw candidate multiple to be 60,000.

The admissions policy normally requires candidates to have at least a 600 score on both the math and verbal portions of the Scholastic Aptitude Test (SAT), or equivalent scores on the American College Testing Assessment (ACT) (Admissions Guidance for the Class of 2005, 2000). Candidates who are active-duty personnel, students from four-year colleges, and other candidates selected by admissions officers can be granted waivers for SAT minimums. Candidates granted waivers are required to have at least a verbal SAT score of 530 and a math SAT score of 570. The Superintendent must approve waivers for candidates whose math and verbal SAT scores are both below 570.

Additionally, candidates are normally required to rank in the top 40 percent of their high school class. Special consideration may be given to candidates who otherwise have superior qualifications or who apply from unusually competitive high schools (Admissions Guidance for the Class of 2005, 2000).

D. SCOPE, LIMITATIONS, AND ASSUMPTIONS

This thesis compared the individual characteristics of midshipmen who were determined to have violated the Honor Concept with those who had not. The records of midshipmen from class years 1996 through 2000 were used to determine each midshipman's likelihood of violation. Data concerning honor violations for class years prior to 1996 were not recorded in a standardized fashion, and were not consistent with

more recent records. The data set was obtained during the fall semester of 2000, so data for the class of 2001 and beyond were not available.

This thesis was not intended as a critique of the Honor Concept or of the admissions process at USNA. Further, this thesis was limited to a study of individual influences on dishonest behavior. Contextual and longitudinal factors were not examined. For instance, the effect of the EE cheating scandal on the administration of the Honor Concept was not considered. Although much can be learned from such subjects, this thesis was solely concerned with individual influences.

The primary limitation of this thesis was the variation associated with both the opportunities to commit an honor violation and the probability of detection of an honor violation. Several circumstances must conspire for an honor violation to occur and be detected: (1) personal, demographic, and attitudinal characteristics of the potential violator, (2) contextual influences on the potential violator, (3) an opportunity to commit a violation, and (4) an opportunity to witness and detect the violation. The latter two circumstances, opportunity and chance of detection, vary widely from midshipman to midshipman. However, this thesis assumes that over the course of a highly standardized and demanding four-year experience, opportunities to commit an honor violation and the probabilities of detection are roughly equal for midshipmen.

Additionally, an issue known as "spotlighting" complicates the analysis of factors contributing to the likelihood that a midshipman will commit an honor violation.

Spotlighting occurs when students who stand out in a prominent way, such as athletes or ethnic minorities, are scrutinized more closely than other students. If spotlighting has been a significant factor in the application of the Honor Concept at the Naval Academy,

then it would bias the coefficients in the regression model. This thesis does not address the question of whether or not spotlighting occurs in the honor process at USNA.

However, if it does exist, then it is hoped the effects will be isolated in the regression coefficients of demographic and athletic participation variables, and should not bias the other coefficients.

E. ORGANIZATION OF THE STUDY

This study is organized into five chapters. Chapter II reviews relevant research to date on dishonest behavior in undergraduate education and describes the USNA Honor Concept in detail. Chapter III describes the data analyzed in this study and the methodology used to test the hypothesis. Chapter IV presents the empirical results of the regression. Finally, Chapter V discusses the results and offers policy recommendations for the future.

II. LITERATURE REVIEW

A. INTRODUCTION

Previous research in the field of academic integrity is extensive. There have been well over 100 studies that investigated various factors that influence cheating in college. Nearly all of the research has been based on self-reported surveys of academic dishonesty that assessed both the prevalence of cheating in college and the factors that influence cheating behavior (Whitely, 1998). Much of the research aimed at understanding academic dishonesty in ways that can be used to curb it. Accordingly, most of the previous research has emphasized the influence of contextual factors, such as campus culture and the presence of honor codes. However, regardless of any contextual influences present, cheating is an individual choice and it is also useful to understand the individual influences on academic dishonesty in college.

A student's decision to cheat in college is certainly complex. Most researchers agree that the decision to cheat is based on three sets of factors: (1) specific circumstances that yielded an opportunity to cheat, (2) individual factors such as grade point average (GPA) or ethical attitudes, and (3) contextual factors such as the presence of an honor code (Tang & Zou, 1998). The focus of this thesis is on the individual factors that influence students to cheat. This chapter outlines previous research on the individual factors of cheating and describes the United States Naval Academy's honor system.

B. INITIAL RESEARCH BY BOWERS

Bowers (1964) published the first comprehensive survey of academic dishonesty in his study, *Academic Dishonesty and Its Control in College*. Nearly all contemporary research papers on academic cheating cited Bowers's research. Bowers (1964) analyzed surveys of over 5000 students from 99 colleges (p. 8). Over half of the respondents admitted to some form of cheating since entering college. Bowers's (1964) study revealed general information on cheating in college, for example, the most common forms of cheating were copying from another student during an exam and plagiarism on papers, while less common forms included turning in papers done by others and using crib notes during an exam (p. 43).

Bowers's (1964) landmark research also analyzed the characteristics of individuals who admitted to cheating. A strong correlation between individual academic performance and cheating was found (p. 74). For example, only 38% of respondents with a B+ or higher grade point average reported cheating, while 57% of respondents with a C- or lower grade point average reported cheating. This relationship became stronger as students entered the more advanced years of college (p. 75). Bowers (1964) also found other relationships associated with academic performance. The study revealed that, controlling for grade point average, there were correlations between poor study habits and cheating (p. 83), and perceived parental emphasis on good grades and cheating (p. 93).

Additionally, Bowers's (1964) study found that student orientation toward college life significantly affected an individual's propensity for academic dishonesty. Bowers found that students who are intellectually oriented to college, those who view education

as intrinsically valuable, cheat less often than those who attend college for social, vocational, or other reasons (p. 103). This finding is illustrated by the association of cheating behavior with academic major. Bowers found that cheating rates were much higher in more vocational academic majors such as business, education, and engineering than in other types of majors such as language, history, and the humanities (p. 106).

Bowers (1964) used fraternity and sorority membership as a proxy for social orientation. He found that cheating rates were higher for those students involved in fraternities and sororities (p.110). Further, the deeper the student's involvement in the fraternity or sorority, the higher the likelihood the student would cheat. Approval of cheating behavior was also prevalent in groups such as fraternities and sororities, in which intellectual priorities were low (p.112). Perceived peer disapproval was found to be a strong factor in cheating behavior. Only 26% of those students who rated their peer disapproval of cheating as "very strong" admitted to cheating, while 71% of students who rated their peer disapproval as "very weak" admitted to cheating (p.147). When accounting for grade point average, the relationship between peer approval and cheating remained strong (p. 151).

Finally, Bowers (1964) discovered one of the strongest predictors of cheating behavior in college was cheating behavior in high-school (p.128). Much of this relationship was explained by the "orientation" factor. In other words, those who were oriented to social and non-intellectual concerns in high school were very likely to have the same orientation in college. Thus, Bowers theorized a "cheating syndrome" in which students are socialized during their adolescence to accept cheating (p.119). Young students are often rewarded by their peers for social, athletic, and other non-intellectual

pursuits, but they are rarely rewarded by peers for academic performance. Consequently, academic orientation and attitudes toward cheating are developed prior to entry into college.

C. WHITLEY'S META-ANALYSIS

Whitley (1998) conducted a meta-analysis of 107 studies of cheating in college conducted between 1970 and 1996. The study analyzed many correlates with cheating behavior and gauged several individual characteristics that increased the likelihood of cheating. Whitley (1998) identified demographic factors that correlated with cheating, such as being older and being male. His analysis indicated that students with a borderline grade in a specific course were more likely to cheat than students with overall poor grades. One of the strongest individual relationships revealed was between prior cheating in high school and cheating in college. Just as Bowers (1964) hypothesized, cheating appeared to be a consistent pattern of behavior for some students.

Whitley (1998) also found external factors that correlated with cheating. A high level of extra-curricular activity was found to correlate with cheating. Fraternity and sorority membership showed a positive relationship to cheating, but the relationship was no stronger than other extra-curricular activities.

Additionally, Whitley (1998) found that attitudinal factors were strong correlates with cheating. Overall, students with favorable attitudes toward cheating reported cheating more often. The theory of attitude neutralization appeared to be especially important in understanding cheating behavior. Neutralizing attitudes are beliefs that justify cheating behavior by counteracting any guilt that might be felt by a cheating student (Haines et al., 1986). Perceived work-load and competition with other students

were found to be moderate correlates with cheating. Students who believed they had heavy academic burdens cheated more often, as did students who viewed themselves in competition with other students. Peer disapproval was also found to be a strong correlate. Students who perceived that their peers strongly disapproved of cheating were less likely to admit to cheating.

Finally, Whitley (1998) found that students' expected reward for success contributed to the likelihood of cheating. Students who believed that academic success would lead to greater rewards cheated more often. This relationship was stronger than its inverse: that expected punishments for failure led to more cheating. The study concluded that this imbalance may explain the difficulty of preventing cheating through reward and punishment alone.

D. PROBLEMS WITH IMPRESSION MANAGEMENT

Most research in the field of academic dishonesty has relied on self-reported surveys (Whitley, 1998). In this type of research, students are typically mailed or handed anonymous questionnaires asking a battery of questions about their own attitudes and behavior, plus those of their peers. In general, a common limitation of anonymous questionnaire research is "impression management" or "social desirability."

Respondents may shade their answers to reflect better on themselves.

Thorpe, Pittenger, and Reed (1999) investigated the extent to which response bias existed in questionnaire research on academic dishonesty. Because individual and peer attitudes towards cheating have been clearly associated with cheating behavior, a respondent's desire to present a favorable impression may contaminate the results of a survey.

Thorpe et al. (1999) included an index of impression management with a general survey on cheating given to 310 students. The results supported the hypothesis that response bias significantly contaminates survey research in academic dishonesty, although the effect of the contamination was unclear. The authors presented a paradoxical conclusion. On one hand, "the data concerning rates of cheating are contaminated by the bias to present one's self as a virtuous person" (Thorpe et al., 1999). On the other hand, if the desire to avoid the stigma of cheating is an important factor for non-cheaters, it can be concluded that it is predominantly the non-cheaters who are concerned with impression management, and results from surveys are not significantly skewed by response bias.

Nowell and Laufer (1997) compared the results of anonymous surveys with direct observation of cheating behavior. A total of 311 students in nine sections of business classes were given several in-class quizzes that were collected, photocopied, then graded by instructors. The students were returned their quizzes and told to self-grade them. The students were then asked to report their grades. The differences between the reported grades and the actual grades were considered indications of dishonest behavior. At the end of the semester, the same students completed an anonymous questionnaire designed to estimate levels of cheating in the test group.

A comparison between the levels of cheating estimated by analysis of the survey results and the directly observed levels of cheating revealed shortcomings of the questionnaire method of research. Namely, the survey method indicated approximately half of the actual levels of cheating. This result is worrisome to researchers not only because the overall levels of cheating may be underestimated. More importantly, the

results from survey research may be severely biased by the effect of self-selection (Allen & Fuller, 1998). In other words, those who underreport cheating behavior may disproportionately possess certain characteristics, thereby skewing research results.

E. THE PROCESS OF NEUTRALIZATION

Neutralization is an attitudinal process similar to rationalization in which an individual justifies deviant behavior by professing to "support a particular societal norm but also identifies special circumstances that allow or even require the individual to violate the norm or law" (Haines et al., 1986). Examples of neutralizing attitudes include: (1) "The course material is too hard. No matter how much I study, I cannot understand it." (2) "My cheating doesn't harm anyone else." And (3) "Everyone else seems to be cheating." Neutralization is usually classified in five types: denial of responsibility, denial of the victim, denial of injury, condemnation of the condemners, and appeal to higher loyalties (Haines et al., 1986).

Misplaced loyalty is particularly evident when widespread instances of cheating have been discovered at service academies. A strong bond among classmates is a fundamental value taught from a cadet's or midshipman's first day at a service academy. The investigations of the Military Academy's cheating scandals in 1951 and 1975, and the Naval Academy's electrical engineering scandal in 1994, were each stonewalled by the silence of perpetrators and witnesses in the name of classmate loyalty (Naval Inspector General, 1994; West Point Study Group, 1977).

Neutralization has been found to be a significant factor in a student's decision to cheat (Haines et al., 1986; McCabe, 1992; Nonis & Swift, 1998). In a survey of 380 undergraduate students, Haines et al. (1986) found that cheaters scored significantly

higher than non-cheaters on a scale designed to measure neutralizing attitudes. Haines et al. (1986) also found that students with high levels of neutralizing attitudes were most deterred from cheating through threats of formal sanctions and are least deterred by guilt or disapproval from peers. Haines et al. (1986) concluded that "neutralizers seem to function at a relatively low level of Kohlberg's moral development, being concerned primarily with punishment and the reactions of authority figures."

Nonis and Swift (1998) found that neutralization was the strongest attitudinal variable in situations when deterrents to cheating were strong. In a survey of 301 marketing students, respondents were asked general questions about their cheating and were given three additional sets of questions designed to gauge the respondents' degree of alienation, perceived academic performance, and deterrence. Respondents also answered questions designed to assess the likelihood of cheating in situations of varying levels of deterrence.

The effect of the factors on the likelihood a student would cheat differed based on the given level of deterrence. In low-deterrence situations, descriptor variables such as gender and age accounted for only 6% of the variation in cheating frequency. In contrast, in high-deterrence situations, descriptor variables accounted for 20% of the variation in cheating frequency. When deterrents were low, perceived GPA and neutralization were the only significant ($p < .05$) predictor of cheating frequency. However, when deterrents were high, perceived GPA, gender, and neutralization were significant factors. Further, the slope coefficients of perceived GPA and neutralization nearly doubled when deterrents were high, together accounting for 42% of the variation in cheating frequency.

Nonis and Swift's (1998) findings indicate that perceived GPA and neutralization are better predictors of cheating behavior in high-deterrent situations. As will be discussed later in this chapter, the firm climate of the Naval Academy promoted through the Honor Concept can be considered a nearly permanent high-deterrent environment. Consequently, these factors are of particular interest to this thesis.

F. THE INFLUENCE OF PERSONALITY

Buckley et al. (1998) investigated other individual characteristics that may influence an individual to cheat, focusing on personality traits. Their research also verified two other theories of moral decision-making: deterrence theory and rational choice theory.

With one exception, personality factors such as "Type A" characteristics and self-esteem were not significant factors in cheating frequency. However, hostility and aggression were strong predictors of cheating behavior. Students with relatively high levels of hostility and aggression were more likely to engage in unethical behavior.

Deterrence theory states that any particular behavior is inhibited in direct proportion to both the perceived probability of being caught and the severity of the punishment for the behavior. Rational choice theory is a basic economic theory which states that individuals behave according to the relationship between the potential risks and returns of a situation. Respondents confirmed that both of these theories help explain cheating behavior. Buckley et al. (1998) indicated a progressively lower likelihood of cheating as the probability of being caught and the severity of the punishments increased.

G. THE EFFECT OF GENDER

Nearly all studies of individual factors in college cheating have found that males cheat more often than females (Whitely, 1998). The most frequent explanation for this phenomenon is sex-role socialization theory (Ward & Beck, 1990). Sex-role socialization theory states that females are socialized to behave differently than males. One aspect of this theory posits that females are taught to obey rules more than males. Ward and Beck (1990) investigated why women still cheat given the high levels of restraining normative expectations conferred on women by sex-role socialization.

Ward and Beck (1990) is unusual because, like Nowell and Laufer (1977), it did not rely exclusively on anonymous surveys. In their study, 165 students enrolled in an introductory psychology course were asked to complete a generic survey, not specific to cheating, that included a battery of questions designed to measure neutralizing attitudes. Eight weeks later, the same subjects completed their midterm examination. The exams were graded and photocopied. At the next class meeting, the subjects were returned their exams for self-grading. Students were expected to mark each correct answer with a check and report their grade to their instructor. Each student's actual grades were compared with their reported grades to indicate levels of cheating.

For men, there was almost no difference in cheating between those who scored high on the neutralization scale and those who scored low. For example, 39.29% of the neutralizing males cheated, while 37.50% of the non-neutralizing males cheated. In contrast, 41.18% of neutralizing women cheated compared with only 10.00% of non-neutralizing women. Neutralizing women cheated more often than non-neutralizing

women. Ward and Beck (1990) concluded that neutralizing attitudes were far more important for women to cheat than for men.

H. THE EFFECT OF ACADEMIC PERFORMANCE

One of the strongest correlates with cheating behavior is academic performance (Crown & Spiller, 1998). It is also one of the easiest factors to measure. Academic performance can be split into three types: (1) GPA, (2) specific grades in a particular course, and (3) individual academic ability. These three types of performance are interrelated, and it is therefore difficult to identify which of the three is the strongest influence on cheaters.

Rational decision-making models are based on the presumption that a decision to act is made when the utility of the action outweighs the costs of the action (Kerkvliet, 1994). The primary utility of cheating lies in the benefit of better grades. However, there are other secondary advantages to cheating, such as the avoidance of studying.

Of the three types of performance measurements, overall GPA is the most frequently studied (Crown & Spiller, 1998). Because most studies are based on broad survey research, it is impossible for respondents to parse their course grades with cheating instances in all of their courses. Further, overall GPA is the easiest performance type to measure. In addition to Whitley (1998), several studies (McCabe & Trevino, 1993, 1996; Nonis & Swift, 1998; Tang & Zou, 1998) confirm the negative relationship between overall GPA and cheating.

Course-specific grades can only be measured in studies not based on broad surveys. However, Whitley (1998) found that the cheater's specific grade for the course in which the cheating occurred was more important than overall GPA. One can imagine

an otherwise stellar English major required to take a difficult science course who finds himself in the dire situation of probable failure. This type of student may distort the true effect of grades if a study uses overall GPA as the only measure of performance.

The third type of performance measurement is ability. A student with a low overall GPA may actually have strong academic abilities but may not be applying himself. Most survey-based studies assess students' perceptions of their own abilities on a Likert scale (Thorpe et al., 1989), but ability could be directly measured through SAT or ACT scores. Studies have come to conflicting conclusions regarding the effect of academic ability. Crown and Spiller (1998) concluded that SAT and ACT scores are negatively correlated with cheating, but Whitley (1998) concluded the opposite.

I. RESEARCH AT THE U.S. AIR FORCE ACADEMY

Roffey (1992) examined the differences in moral development between United States Air Force Academy (USAFA) cadets who have and have not been convicted of honor code offenses. The study surveyed two groups of respondents: 162 cadets chosen at random from the general cadet population, and 24 cadets who had recently been convicted of honor code violations and volunteered for the study. All respondents completed the Defining Issues Test (DIT) and the USAFA Issues Survey. The DIT tests an individual's relative emphasis on principled moral considerations, namely stages five and six of Kohlberg's moral development theory. The USAFA Issues Survey presents four dilemmas specific to the non-toleration clause of USAFA's honor code, then asks several yes and no questions.

The non-toleration clause states that cadets who have knowledge of an honor code violation are in violation themselves if they fail to formally report it. Unlike USAFA and

the United States Military Academy at West Point, the Naval Academy's Honor Concept does not contain a non-toleration clause. However, Naval Academy midshipmen are required to formally counsel violators if they choose not to officially report them.

Roffey (1992) found that moral development scores from the DIT increased with successive class years. Seniors scored highest, while freshmen scored lowest. However, a negative association between class year and adherence to the non-toleration clause was revealed. Cadets' adherence to the non-toleration clause was not related to their moral development scores.

Roffey (1992) also compared individual characteristics. No significant differences were found by gender on either the DIT or the USAFA Issues Survey. This result was found to be in conflict with past studies which found that women generally score lower on instruments based on Kohlberg's theory. Roffey (1992) theorized that female cadets might have adopted traditional male perspectives as part of their pursuit of what has been considered a typically male occupation. Honor code violators had significantly lower overall GPAs than those cadets who were not convicted of honor code violations. Additionally, sophomores and juniors who completed an introductory ethics course scored modest but significant gains in moral development.

J. THE NAVAL ACADEMY HONOR CONCEPT

The Naval Academy Honor Concept was created by midshipmen in 1951 to enforce the Brigade's ethical standards. As its name implies, the Honor Concept is a simple standard of behavior for midshipmen. It broadly defines what constitutes the three basic types of offenses: lying, cheating, and stealing. The Honor Concept states:

Midshipmen are persons of integrity: They stand for that which is right. They tell the truth and ensure that the full truth is known. They do not lie. They embrace fairness in all actions. They ensure that work submitted as their own is their own, and that assistance received from any source is authorized and properly documented. They do not cheat. They respect the property of others and ensure that others are able to benefit from the use of their own property. They do not steal. (USNAINST 1610.3F)

Unlike honor codes adopted at other colleges, the Academy's Honor Concept applies to all facets of a midshipman's life. The standards of the Honor Concept apply to midshipmen's personal and professional activities just as much as they apply to their academic activities. Ingrained in the Honor Concept is the notion that for naval officers there is no distinction between personal, professional, and academic integrity.

To a large degree, midshipmen administer the Honor Concept themselves. The Brigade Honor Committee, comprised of midshipmen selected by the Academy administration, is responsible for investigating and processing the cases of midshipmen reported for violations. The Brigade Honor Committee is also responsible for education and training of all midshipmen in the standards of the Honor Concept.

1. Brigade Honor Committee

The Brigade Honor Committee consists of a chairman and six other midshipmen officers, plus two representatives from each of the 30 companies. The chairman has overall responsibility for the application of the Honor Concept within the Brigade, including appointing honor boards, which are the adjudicators of alleged honor offenses. The other officers have various other responsibilities such as education, investigation, and record keeping. Company representatives are first-class (senior) and second-class (junior) midshipmen elected by their respective companies. They serve on honor boards and act as representatives of accused midshipmen when asked.

The Academy's administration, consisting of the Commandant of Midshipmen and the Superintendent, oversee the management of the Honor Concept (USNAINST 1610.3F-0215). The Commandant appoints a Navy or Marine officer to act as the Ethics Advisor whose job is to advise and oversee the application of the Honor Concept. The Superintendent selects a Character Development Officer whose broad responsibilities include the Academy's overall program of character development. The Character Development Officer also chairs an annual Ethics Steering Committee comprised of officers, retired officers, and faculty members who advise the Superintendent on changes in the Honor Concept.

2. Rights of the Accused

Although the Honor Concept is not a legal procedure, midshipmen accused of honor offenses are entitled to certain due process rights (USNAINST 1610.3F-0301). Accused midshipmen enjoy common rights, including the right to confront one's accuser, to remain silent, to free legal consultation, to be provided with copies of the evidence against him, to call witnesses, and to make oral and written statements.

3. Accusation and Investigation

Although the Concept is generally simple, its enforcement is a complex process. Only midshipmen, officers, and faculty at the Naval Academy can submit formal accusations of honor offenses. Accusations must occur within 21 days of the discovery of any possible offense. Once an accusation is submitted, the Brigade Honor Chairman reviews the accusation. If he determines there was clearly no violation, he can summarily dismiss the case. If the Chairman determines there may have been only a trivial violation, he may choose to formally counsel the accused midshipman. Otherwise, the

Chairman must forward the case for investigation and assign a midshipman investigating officer.

The investigating officer's job is to collect relevant information, not to perfect a case against the accused. Unlike court trials, the process is not intended to be adversarial. The investigating officer collects relevant documents and interviews witnesses, including the accused. Once the investigation is complete, the Brigade Honor Chairman again has several options. He can dismiss the case, counsel the midshipman, forward the case to a formal counseling board, or forward the case to a Brigade Honor Board for adjudication.

4. Brigade Honor Boards

A Brigade Honor Board consists of eleven midshipmen: the Honor Chairman or appointed deputy, a recorder, four Honor Committee members, and five members-at-large. Each member has one vote, except the chairman and the recorder who have no vote. A unique board is assigned for each case, and once a board is convened, its membership may not change.

The board then conducts a private hearing in which the investigating officer presents evidence and witnesses. Members of the board and the accused midshipman may ask questions of the witnesses. Once the hearing is complete, the board votes by secret written ballot to determine whether a violation of the Honor Concept has occurred. A super-majority of six out of nine votes is required for a finding of "violation." If the accused was found to be in violation, the Brigade Honor Board takes a second vote to determine if separation or retention is warranted.

5. Review by the Administration

If a violation is found, the Commandant of Midshipmen reviews the case. The Commandant acts much like a court of appeals. He can consider mitigating factors, including the accused midshipman's overall record. He may terminate the case if it is found clearly erroneous, remand the case to the same honor board, convene a new board, alter the punishment, or forward the case to the Superintendent recommending the violator be separated from the Naval Academy. If the Commandant does not forward the case to the Superintendent, he has the discretion to award a variety of punishments short of separation.

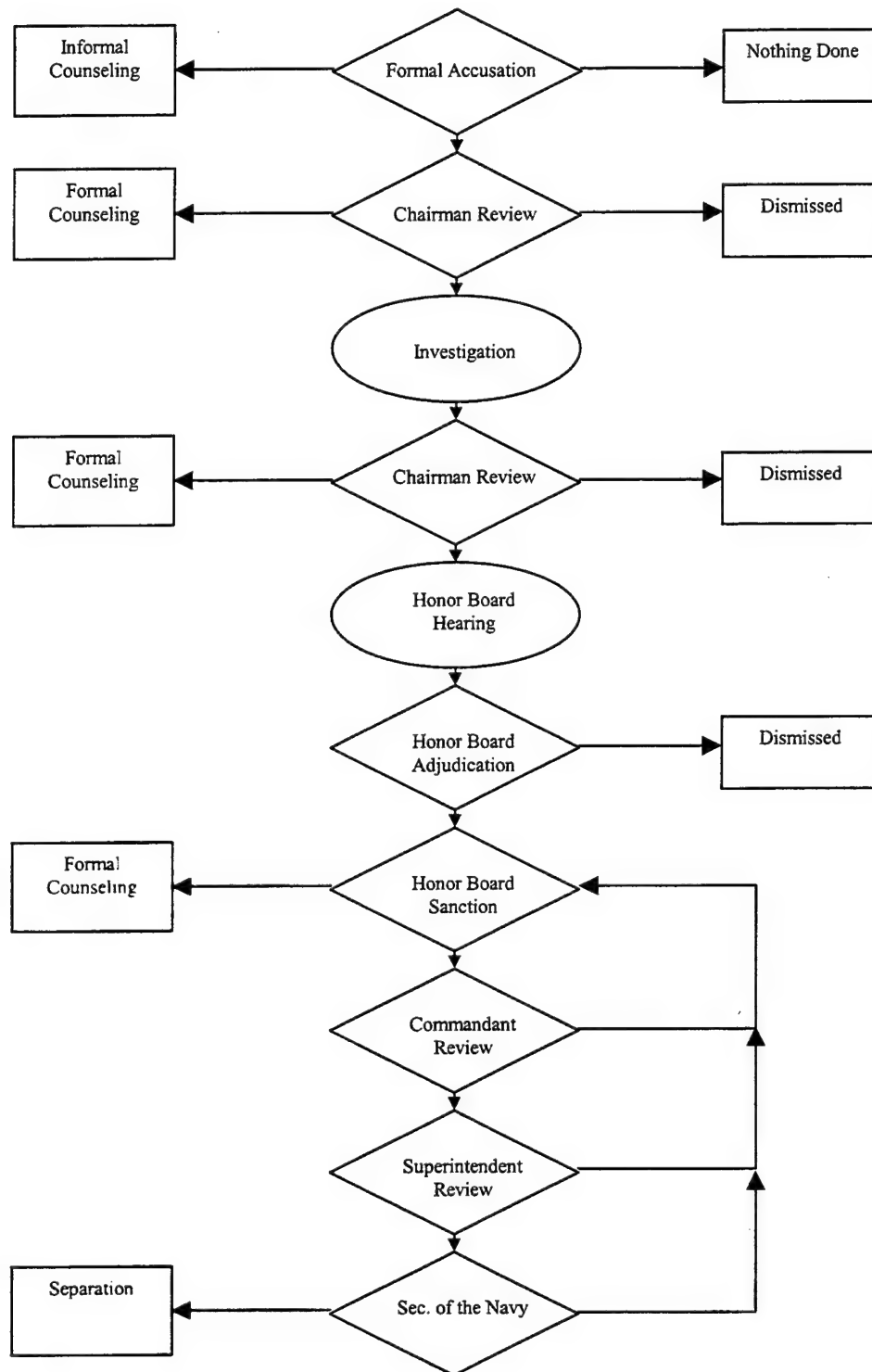
In turn, the Superintendent also reviews the case. The Superintendent has the same options as the Commandant; in addition, he may return the case to the Commandant for punishment other than separation. If the Superintendent concurs with the recommendation for separation, he forwards the case to the Secretary of Navy, who has the ultimate discretion as to whether the midshipman is separated.

6. Other Considerations

In practice, violators are often separated from the Naval Academy for other reasons prior to subjecting themselves to the hardships of enduring the honor process. Many times, midshipmen who feel they have little chance to be retained submit voluntary resignations. Many cheating midshipmen are failing an academic course already, so they must attend Academic Review Boards at the conclusion of each semester. Midshipmen facing the prospects of facing an honor board do not present a compelling case for retention at the Academic Review Board and are often separated for academic cause.

Figure 2.1 represents the complex decision-making chain involved in the honor offense process. The diamond-shaped stages represent the many adjudicating stages. At any one of these stages, a case could be dismissed, overturned, or aborted. Figure 2.1 illustrates this process.

Figure 2.1 The USNA Honor Offense Process



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III. DATA AND METHODOLOGY

A. DATA SOURCES

Data for this thesis were obtained through the United States Naval Academy (USNA) Office of Institutional Research, Planning, and Assessment. The variables used in this study include demographic information, admissions records, academic records, military performance records, and admissions sources for all midshipmen in the classes of 1996 through 2000. These data were obtained directly from a database maintained by the USNA Office of Institutional Research. Also included in this thesis are records of honor violations from the fall semester of 1992 through the spring semester of 2000. Honor violation records were created by the Commandant's Ethics Advisor, then catalogued by the Office of Institutional Research.

B. DEPENDENT VARIABLE

VIOLATOR was the dependent variable for the regression model. Midshipmen were classified as violators of the Honor Concept (VIOLATOR=1) if they were accused of an honor violation and the case was not dismissed by the Brigade Honor Chairman at the first formal review opportunity. Violators of the Honor Concept comprise 10.8 percent of midshipmen in the sample. VIOLATOR included all three types of behavior considered honor violations at USNA: lying, cheating, and stealing. Midshipmen who were accused of an honor violation, but whose cases were dismissed, were excluded from analysis. Twenty-three such cases were excluded. All other midshipmen were considered not to have violated the Honor Concept (VIOLATOR=0).

C. INDEPENDENT VARIABLES

1. Academic Grades

Academic Quality Point Rating (AQPR) is USNA's term for academic grade point average. AQPR is a continuous 4.0 scale, which represents the numeric average of a midshipman's total course grades. The mean AQPR for the sample was 2.75. AQPR was expected to have a negative coefficient because midshipmen with higher grades had a comparatively small incentive to cheat. Further, midshipmen with high overall grades would be taking a relatively higher risk by violating the Honor Concept.

2. Military Grades

Military Quality Point Rating (MQPR) is a numerical average of a midshipman's military performance. Like AQPR, it is a continuous 4.0 scale. MQPR is primarily based on subjective performance grades assigned each semester by each midshipman's company officer, a Navy or Marine O-3 or O-4. MQPR also includes grades from professional courses such as navigation and naval leadership. The mean MQPR for the sample was 3.07. Midshipmen who earned good military performance grades were expected to have conformed with and internalized the social norms at USNA, which include adherence to the Honor Concept.

3. Admission Source

Midshipmen can gain admission to USNA either directly or through various preparatory programs. Direct admissions come from high schools, civilian colleges, or the enlisted community of either the United States Navy or Marine Corps. The most common preparatory program is the Naval Academy Preparatory School (NAPS).

Candidates for admission who demonstrate special abilities or potential, but who do not

possess the academic skills required by USNA's rigorous and highly technical curriculum, may be offered admission to NAPS (Admissions Guidance for the Class of 2005, 2000). NAPS is a ten-month program in which midshipmen candidates are inducted into the Naval Reserve and provided college preparatory classes. NAPS graduates constitute 16.6 percent of the sample.

Additionally, candidates for admission who demonstrate high potential, but who are neither offered admission nor offered NAPS, may be offered scholarships to civilian preparatory schools by the Naval Academy Foundation, a non-profit organization associated with the USNA Alumni Association. The Admissions Board refers candidates who meet certain criteria directly to the Foundation for consideration (Admissions Guidance for the Class of 2005, 2000). Foundation scholarship recipients make up 6.5 percent of the sample.

Lastly, a third preparatory program is the Broadened Opportunity for Officer Selection and Training (BOOST) program. BOOST offers qualified enlisted service members a concentrated course of instruction prior to either participation in a Naval Reserve Officer Training Corps (NROTC) program or attendance at USNA. Of the midshipmen in the sample, 0.8 percent were graduates of BOOST.

Admission sources were segmented into three dummy variables and a fourth omitted category. NAPS was coded as one for those midshipmen who attended NAPS and coded as zero for all midshipmen who did not. Likewise, FOUNDN was coded as one for those midshipmen who were USNA Foundation scholarship recipients and coded as zero for midshipmen who were not. Lastly, BOOST was coded as one for midshipmen who were graduates of the BOOST program and coded as zero for those who did not.

The omitted category was direct admission, which included those midshipmen who did not attend any of the three preparatory programs.

The variable NAPS was expected to have a positive effect on the likelihood that a midshipman would violate the Honor Concept. Although graduates of NAPS have an extra year of indoctrination to USNA values, other factors were expected to be more important. In particular, NAPS graduates often form tight personal bonds, and therefore were expected to display cheating behavior similar to civilian fraternity members. In the literature, fraternity members were more likely to cheat because of their social orientation (Bowers, 1964). Because Foundation midshipmen attend several separate schools, the effect of coming to USNA from that program was expected to be neutral. BOOST graduates are a small and unique group of midshipmen, so the effect of the variable BOOST was unclear.

4. Gender

The variable GENDER classified male and female midshipmen. GENDER was coded as one for females and zero for males. Female midshipmen constitute 15.2 percent of the sample. Due to sex-role socialization theory, female midshipmen are expected to conform more easily to group norms (Ward & Beck, 1990). Consequently, GENDER was expected to have a negative coefficient in the regression model.

5. Race

Racial minorities were classified in three categories: African-American, Hispanic-American, and an "other" category which includes Asian-Americans, Filipino-Americans, Puerto Ricans, and Native Americans. Within the overall sample, 18.7 percent of the midshipmen in the sample were racial minorities. Within that group, 7.1 percent were

African-American, 5.8 percent were Hispanic, 2.6 percent were Asian-American, 1.5 percent was Filipino-American, 1.0 percent was Native-American, and 0.8 percent was Puerto Rican.

The variable AFAMERIC was coded as one for African-American midshipmen. The variable HIAMERIC was coded as one for Hispanic-American midshipmen. Likewise, the variable OTHRRACE was coded as one for other minority midshipmen. The omitted category was Caucasian.

Race was included in this thesis for two reasons. First, race often represents characteristics forming one's personal background, which can play an important role in shaping behavioral norms. Second, if the problem of racial spotlighting exists in the application of the Honor Concept at USNA, it was isolated in the regression coefficients of AFAMERIC, HIAMERIC, and OTHRRACE, leaving the other variables uncontaminated with bias due to spotlighting. For these two reasons, the effect of the racial minority variables in the regression model was unclear.

6. Athletic Participation

Two variables identified midshipmen who stood out athletically. First, the variable, LETTER, identified midshipmen who earned varsity letters for their participation in inter-collegiate sports. LETTER was coded as one for midshipmen who earned letters and zero for all other midshipmen. Of the midshipmen in the sample, 20.0 percent were varsity letter winners. A second variable, BLUECHIP, identified midshipmen who were of special interest to the Naval Academy Athletic Association (NAAA) during the admissions process. NAAA is an organization that promotes USNA athletic programs through recruiting and other means. "Blue-chip" athletes are

considered to possess extraordinary athletic ability. BLUECHIP was coded as one for midshipmen classified as zero for all other midshipmen. Within the sample, 17.3 percent were considered blue-chip athletes.

LETTER was expected to have positive coefficient in the regression model due to evidence in the literature that participants in extra-curricular activities cheat more often than other students (Whitely, 1998). Members of USNA sports teams may behave similar to fraternity members at civil colleges who were observed to cheat at higher rates (Cochran & Malone, 1994). BLUECHIP was also expected to have a positive coefficient in the regression for the same reason as LETTER. Blue-chip athletes at USNA, as at many civilian colleges, are commonly allowed privileges and opportunities not available to all midshipmen. Accordingly, blue-chip athletes can be considered "exceptional" in their own right, and as such, they were hypothesized to violate the Honor Concept at a higher rate than other midshipmen.

7. Personality

USNA tests all midshipmen with the Meyers-Briggs Type Indicator (MBTI) personality test during their first month at Annapolis. Developed from Jung's theories of personality, the MBTI is an instrument for measuring a person's personality preferences, using four categories with opposite poles. The four categories are: (1) extraversion/introversion; (2) sensing/intuitive; (3) thinking/feeling; and (4) judging/perceiving. The various combinations of these preferences result in 16 different personality types (Kroeger & Thueson, 1992).

The four MBTI categories were coded as four separate binary variables. First, I was coded as one for introverts and coded as zero for extraverts. Second, N was coded as

one for intuitive midshipmen and coded as zero for sensing midshipmen. Third, F was coded as one for feeling midshipmen and coded as zero for thinking midshipmen. Lastly, P was coded as one for perceiving and coded as zero for judging midshipmen. The category types coded as zero are the prevalent types found in the Brigade of Midshipmen at USNA. Within the sample, 43.5 percent were introverted midshipmen, 44.7 percent were intuitive midshipmen, 22.3 percent were feeling midshipmen, and 36.5 percent were perceiving midshipmen.

There is evidence in the literature that personality type is a factor in cheating rates. Students who have aggressive personalities have been found to cheat more often than other students (Buckley et al., 1998). However, there have been no studies investigating the link between MBTI types and dishonest behavior; therefore there are no expectations regarding the effect of MBTI types on the likelihood a midshipman would violate the honor concept.

8. Academic Major

Academic majors at USNA are classified as three distinct groups. Group 1 majors include engineering majors: aerospace, systems, electrical, mechanical, ocean, naval, marine, and general engineering. Group 2 majors include sciences: mathematics, chemistry, computer science, applied science, quantitative economics, physics, and general science (GROUP2=1). Group 3 majors include the humanities: English, political science, history, and qualitative economics (GROUP3=1). Constituting 50 percent of the sample, Group 1 is the largest major group and was therefore the omitted category. Group 2 includes 19.0 percent of the midshipmen in the sample, and Group 3 includes 31.0 percent of the midshipmen in the sample.

Bowers (1964) found more dishonest behavior by students in vocational majors such as business and engineering than by students in other majors such as English or history. However, midshipmen at USNA have a unique perspective on which majors are considered vocational. The selection to duty as a submariner, surface warfare officer, aviator, or Marine hinges directly on class rank. Because of the competition for limited billets in favored service selections such as aviation, midshipmen with vocational orientation favor majors considered less demanding. Midshipmen consider Group 1 majors the most demanding, followed by Group 2 majors, and consider Group 3 majors least demanding. This prevailing opinion among midshipmen was demonstrated by the way in which they changed their majors when facing academic difficulty (Reardon, 1997). For this reason, midshipmen with vocational orientations were expected to choose Group 2 and Group 3 majors. Accordingly, the expected signs of GROUP2 and GROUP3 were positive.

9. Admissions Policy Exceptions

Midshipmen who did not meet the minimum normal admissions standards were identified by the variable, EXCEPT. Candidates for admission who did not have either a math SAT score of at least 600, a verbal SAT score of at least 600, a high school class rank in the top 40 percent of their class, or a raw candidate multiple of 60,000 were considered to be exceptions to normal USNA admissions standards (EXCEPT=1). All other midshipmen were considered to have met admissions standards (EXCEPT=0). Midshipmen considered exceptions to the admissions standards constitute 42.6 percent of the sample.

For further analysis, EXCEPT was separated into four other variables, CMEXCEPT, MEXCEPT, VEXCEPT, and HSEXCEPT. CMEXCEPT was coded as one for midshipmen who had below a 60,000 raw candidate multiple, and was coded as zero for all other midshipmen. Within the sample, 28.6 percent of midshipmen did not have at least a candidate multiple of 60,000. MEXCEPT was coded as one for midshipmen who did not meet the math SAT minimum of 600, and was coded as zero for all other midshipmen. Of midshipmen in the sample, 12.8 percent did not have a math SAT score of at least 600. VEXCEPT was coded as one for midshipmen who did not meet the verbal SAT minimum of 600 and was coded as zero for all other midshipmen. Of midshipmen in the sample, 26.3 percent did not have a verbal SAT score of at least 600. Lastly, HSEXCEPT was coded as one for midshipmen who did not rank in the top 40 percent of their high school class, and was coded as zero for all other midshipmen. Of midshipmen in the sample, 5.3 were not in the top 40 percent of their high school class.

D. SUMMARY OF VARIABLES

Table 3.1 lists each variable and its description. Each dichotomous variable's coding is included in the descriptions. Also listed is the expected sign of the coefficient in the regression model. A positive coefficient indicates that an increase in the associated variable was expected to increase the likelihood that a midshipman would commit an honor violation. A negative coefficient indicates that an increase in the associated variable was expected to decrease the likelihood of violation. Question marks indicate no clear expectation due to the associated variable.

Table 3.1 Summary of Variables

	Description	Expected Sign
VIOLATOR	Dependent variable for the model 1=Considered to have committed an honor violation, 0=is not	NA
AQPR	Academic Quality Point Rating (Academic GPA) standard 4.0 scale	-
MQPR	Military Quality Point Rating (Military performance GPA) standard 4.0 scale	-
NAPS	1=From NAPS, 0=other	+
Variable	1=From BOOST, 0=other	?
FOUNDN	1=From Foundation, 0=other	?
BLUECHIP	1="Blue-chip" recruited athlete, 0=not Blue-chip denotes special athletic interest by NAAA.	+
LETTER	USNA varsity or team letter winner 1=yes, 0=other	+
AFAMERIC	1=African-American	?
HIAMERIC	1=Hispanic-American, 0=other	?
OTHRACE	1=Other racial minority, 0=other	?
GENDER	1=Female, 0=male	-
I	Myers-Briggs Type Indicator (MBTI) personality preference. 1=Introvert, 0=Extrovert	?
N	MBTI 1=Intuitive, 0=Sensing	?
F	MBTI 1=Feeling, 0=Thinking	?
P	MBTI 1=Judging, 0=Perceiving	?
GROUP2	Academic major 1=Science, 0=Other	+
GROUP3	Academic major 1=Humanities, 0=Other	+
EXCEPT	1=Exception to admissions standards. Admissions standards are SATs of 600/600, candidate multiple of at least 60,000, and top 40% of high school class. 0=other	+
CMEXCEPT	1=Midshipman had a raw candidate multiple below 60,000; 0=60,000 or above	+
MEXCEPT	1=Midshipman scored below 600 on math SAT, 0=600 or above	+
VEXCEPT	1=Midshipman scored below 600 on verbal SAT, 0=600 or above	+
HSEXCEPT	1=Midshipman was not in top 40% of high school class, 0=was in top 40%	+

E. SAMPLE SUMMARY

The sample consists of all midshipmen from the classes of 1996 through 2000 except those midshipmen who were accused of honor violations which were dismissed

upon the initial review of the Brigade Honor Chairman. Twenty-three such accusations were dismissed, leaving 6066 cases in the sample. The sample comprised 657 Honor Concept violators and 5352 non-violators. The sample contained 2581 exceptions to the admissions standards and 3485 non-exceptions. Other key aspects of the sample include: 5142 midshipmen were male and 924 were female; 4934 midshipmen were white, 428 were African-American, 351 were Hispanic-American, and 352 were members of other minority races. Table 3.2 lists variables with their means and standard errors for the entire sample of 6066 midshipmen. For example, the mean of VIOLATOR is 0.108, indicating that 10.8 percent were considered to have violated the Honor Concept.

Table 3.2
Descriptive Statistics

Variable	Mean	Std. Deviation
VIOLATOR	0.108	0.311
AQPR	2.751	0.701
MQPR	3.072	0.506
NAPS	0.166	0.372
FOUNDN	0.065	0.247
BOOST	0.008	0.089
GENDER	0.152	0.359
AFAMERIC	0.071	0.256
HIAMERIC	0.058	0.233
OTHRACE	0.058	0.233
BLUECHIP	0.173	0.378
LETTER	0.200	0.400
I	0.435	0.496
N	0.447	0.497
F	0.223	0.417
P	0.365	0.482
GROUP2	0.190	0.393
GROUP3	0.310	0.462
EXCEPT	0.426	0.495
CMEXCEPT	0.286	0.452
MEXCEPT	0.128	0.334
VEXCEPT	0.263	0.441
HSEXCEPT	0.053	0.224

F. MODEL DESCRIPTION

The probability that a midshipman would be identified as a violator of the Honor Concept can be represented by the following probability equation:

$$P_{\text{identification}} = P_{\text{violation}} \times P_{\text{opportunity}} \times P_{\text{detection}}$$

where $P_{\text{identification}}$ equals the product of the probabilities that a midshipman would be willing to commit an honor violation, have the opportunity to do so, and be detected. This thesis assumed that the opportunities to commit an honor violation and the chances of detection are equal over the course of a four-year career at USNA. Therefore, for the purposes of this thesis:

$$P_{\text{identification}} = P_{\text{violation}}$$

The probability that a midshipman would violate the USNA Honor Concept depends on several individual influences. The specification for the model included these influences and was expressed as follows:

$$P(\text{VIOLATOR}) = f(\text{admissions source, demographics, academic grades, military grades, major selection, personality, athletics participation, admissions exception}) + \epsilon$$

where f is a probability function and ϵ is a random error. This specification formed the basis for the analysis used to test the influence of each of the variables.

This thesis used the binary logistic regression technique to estimate the multivariate model. Logit regression uses a maximum likelihood technique to estimate the logarithmic odds-ratio of dichotomous outcomes. Using logistic regression, the initial model specification became:

$$P(\text{VIOLATOR}) = F(\beta_0 + \beta_1 \text{NAPS} + \beta_2 \text{FOUNDN} + \beta_3 \text{BOOST} + \beta_4 \text{GENDER} + \beta_5 \text{AFAMERIC} + \beta_7 \text{HIAMERIC} + \beta_8 \text{OTHRACE} + \beta_9 \text{AQPR} + \beta_{10} \text{MQPR} + \beta_{11} \text{GROUP2} + \beta_{12} \text{GROUP3} + \beta_{13} \text{I} + \beta_{14} \text{N} + \beta_{15} \text{F} + \beta_{16} \text{P} + \beta_{17} \text{LETTER} + \beta_{18} \text{BLUECHIP} + \beta_{19} \text{EXCEPT})$$

where F is the logistic cumulative density function and β_i represents a logistic coefficient for each variable listed. The coefficient indicates the change in the natural logarithm of the odds that a midshipman would violate the Honor Concept, while holding all other variables equal.

Following the analysis of the initial model, a revised model was developed based on the statistically significant variables in the initial model. Then, the other variables were individually re-introduced into the specification. If the variable caused an increase in the chi-square goodness-of-fit statistic, it was retained. Ultimately, the final revised specification included variables based on a balance of theory, significance, and model goodness-of-fit.

G. HYPOTHESIS TESTING

The ultimate goal of the regression was to test the following hypothesis:

Accounting for other factors expected to influence dishonest behavior, those midshipmen admitted to the U.S. Naval Academy as exceptions to its admissions policies violate the Honor Concept more frequently than other midshipmen.

The testing of this hypothesis was based on the size and significance of the coefficient of the variable EXCEPT.

Logit regression estimates coefficients and their statistical significance for each of the independent variables listed in the model specification. In general, for each independent variable, the null hypothesis (H_0) states that there is no systematic

relationship between that variable and the outcome variable. The alternative hypothesis (H_A) states that there is a systematic relationship between the independent variable and the outcome variable. The null and alternative hypotheses can be expressed:

$$\begin{aligned} H_0: \beta_{\text{VARIABLE}} &= 0 \\ H_A: \beta_{\text{VARIABLE}} &\neq 0 \end{aligned}$$

where β_{VARIABLE} is the logistic coefficient for each variable in the model specification.

The significance of each coefficient was computed using the student t-test, indicating the probability that the null hypothesis could be true. Significance levels below 0.05 generally indicate that the null hypothesis can be rejected in favor of the alternative hypothesis.

The primary hypothesis of this study can be expressed:

$$\begin{aligned} H_0: \beta_{\text{EXCEPT}} &= 0 \\ H_A: \beta_{\text{EXCEPT}} &> 0 \end{aligned}$$

where β_{EXCEPT} is the coefficient of the variable EXCEPT. Following the analysis of results from the regression models, the marginal effects of each variable in the revised model were computed. The size of the marginal effect for EXCEPT suggests the extent of the effect being an admissions exception is to the likelihood a midshipman would violate the Honor Concept. The next chapter will present the results for each regression specification and the marginal effects of each independent variable.

IV. RESULTS

A. INTRODUCTION

This chapter describes the results of the multivariate regression analyses. First, the results of the initial model specification are presented. Then, the results of the revised model specification are outlined and the marginal effects of the variables are presented. The different types of admissions exceptions (identified by the variables MEXCEPT, VEXCEPT, HSEXCEPT, and CMEXCEPT) are analyzed within the regression model. This analysis reveals which types of admissions exceptions may be particularly vulnerable to Honor Concept violation.

B. DESCRIPTIVE ANALYSIS

Prior to regression analysis, it is interesting to see the violation rates associated with each independent variable. It should be noted, however, that these violation rates do not control for the other variables. The regression results presented later in this chapter reveal the true effect of each variable, while holding other variables equal.

Table 4.1 lists the means of each variable within a sub-sample of only Honor Concept violators (VIOLATOR=1). These means show the disproportionate number of violators from many of the groups represented by each variable. For example, while graduates of NAPS were only 16.6 percent of the total sample, they represented 25.4 percent of the Honor Concept violators.

The disproportionate number of admissions exceptions (EXCEPT=1) who were also violators (VIOLATOR=1) is of particular interest. Although candidate multiple

Table 4.1
Descriptive Statistics and Means within VIOLATOR and EXCEPT

Variable	Mean (n=6066)	Std. Deviation	Mean within VIOLATOR=1 (n=657)	Mean within EXCEPT=1 (n=1734)
VIOLATOR	0.108	0.311	1.000	0.156
AQPR	2.751	0.701	2.532	2.423
MQPR	3.072	0.506	2.876	2.931
NAPS	0.166	0.372	0.254	0.460
FOUNDN	0.065	0.247	0.049	0.100
BOOST	0.008	0.089	0.017	0.020
GENDER	0.152	0.359	0.172	0.145
AFAMERIC	0.071	0.256	0.120	0.143
HIAMERIC	0.058	0.233	0.084	0.085
OTHRACE	0.058	0.233	0.072	0.068
BLUECHIP	0.173	0.378	0.242	0.319
LETTER	0.200	0.400	0.259	0.283
I	0.435	0.496	0.377	0.383
N	0.447	0.497	0.469	0.426
F	0.223	0.417	0.195	0.245
P	0.365	0.482	0.396	0.418
GROUP2	0.190	0.393	0.236	0.189
GROUP3	0.310	0.462	0.362	0.422
EXCEPT	0.426	0.495	0.546	1.000
CMEXCEPT	0.286	0.452	0.411	0.672
MEXCEPT	0.128	0.334	0.174	0.361
VEXCEPT	0.263	0.441	0.333	0.500
HSEXCEPT	0.053	0.224	0.085	0.124

exceptions consisted of 28.6 percent of the total sample, they represented 41.1 percent of Honor Concept violators. Without accounting for other factors, it appeared this type of admissions exception violated the Honor Concept at a higher than proportional rate. Other variables showed the same trend, including GENDER, NONWHITE, LETTER, BLUECHIP, GROUP2, and GROUP3.

The continuous variables, AQPR and MPQR, also differed between the overall sample and the VIOLATOR subset. The mean AQPR for the total sample was 2.75

while the mean for Honor Concept violators was 2.53. Likewise, the mean MQPR for the total sample was 3.07 while the mean for Honor Concept violators was 2.53.

Additionally, Table 4.1 lists the means of each variable within a subset of the sample limited only to admissions exceptions (EXCEPT=1). This list of means shows the degree of overlap between admissions exceptions and other factors. The correlation between preparatory program graduates and admissions exceptions was apparent. For example, while NAPS graduates were 16.6 percent of the total sample, they were 46.0 percent of the admissions exceptions. Graduates of NAPS, Foundation, and BOOST were expected to include of a large number of admissions exceptions because the very nature of preparatory programs assumes many participants did not fully meet admissions standards.

C. INITIAL SPECIFICATION

The initial specification for the regression model is represented by the following expression:

$$P(\text{VIOLATOR}) = F(\beta_0 + \beta_1 \text{NAPS} + \beta_2 \text{FOUNDN} + \beta_3 \text{BOOST} + \beta_4 \text{GENDER} + \beta_5 \text{AFAMERIC} + \beta_7 \text{HIAMERIC} + \beta_8 \text{OTHRACE} + \beta_9 \text{AQPR} + \beta_{10} \text{MQPR} + \beta_{11} \text{GROUP2} + \beta_{12} \text{GROUP3} + \beta_{13} \text{I} + \beta_{14} \text{N} + \beta_{15} \text{F} + \beta_{16} \text{P} + \beta_{17} \text{LETTER} + \beta_{18} \text{BLUECHIP} + \beta_{19} \text{EXCEPT})$$

where F is the logistic cumulative density function and β_i represents the logistic coefficient for each variable listed. The regression results of this model specification are listed in Table 4.2.

The Pearson chi-square goodness-of-fit statistic (df=18) for the model was 178.95, which is significant at the 0.001 level. The significance of the chi-square statistic

Table 4.2
Logistic Regression of the Likelihood of Midshipmen to
Violate the Honor Concept: Initial Specification

Variable	Coefficient	s.e.	t	sig.
GENDER	0.163	0.116	1.406	0.160
NAPS	0.118	0.118	1.004	0.316
FOUNDN	-0.287	0.203	1.413	0.158
BOOST	0.585	0.374	1.561	0.118
AFAMERIC*	0.305	0.148	2.056	0.040
HIAMERIC*	0.352	0.167	2.103	0.035
OTHRACE	0.297	0.171	1.738	0.082
LETTER	0.179	0.112	1.591	0.112
BLUECHIP	0.201	0.123	1.641	0.101
I*	-0.201	0.088	2.276	0.023
N	0.107	0.091	1.178	0.239
F*	-0.265	0.110	2.402	0.016
P	0.154	0.093	1.653	0.098
AQPR	-0.118	0.090	1.314	0.189
MQPR**	-0.521	0.102	5.119	0.000
GROUP2**	0.384	0.115	3.347	0.001
GROUP3**	0.257	0.103	2.508	0.012
EXCEPT*	0.210	0.106	1.984	0.047
Constant*	-0.592	0.234	2.525	0.012

n=6066

chi-square(df=18)=178.95

* significant at 0.05 level

**significant at 0.01 level

indicated the model had at least some ability to account for variance. The variables MQPR and GROUP2 were significant at the 0.01 level. The variables AFAMERIC, HIAMERIC, I, F, GROUP3, and EXCEPT were significant at the 0.05 level. The variables OTHRRACE and P approached significance at the 0.10 level. The variables MQPR and GROUP2 were significant at the 0.01 level. The variables AFAMERIC, HIAMERIC, I, F, GROUP3, and EXCEPT were significant at the 0.05 level. The variables OTHRRACE and P approached significance at the 0.10 level. The variables

GENDER, NAPS, FOUNDN, BOOST, LETTER, BLUECHIP, N and AQPR were not significant.

Positive coefficients in Table 4.2 indicate that an increase in the associated variable increases the likelihood of violation. Negative coefficients indicate that an increase in the associated variable decreases the likelihood of violation. The signs of the coefficients for NAPS, LETTER, BLUECHIP, MQPR, AQPR, GROUP2, GROUP3, and EXCEPT were consistent with expectations. Only the sign of the coefficient of GENDER was contrary to expectations, although it was not significant. Most surprising, however, was the non-significance of AQPR. Based on evidence from previous studies, academic grades were expected to be one of the most important factors in dishonest behavior in college.

D. REVISED SPECIFICATION

Results from the initial model specification formed the basis of the revised specification. The revised specification began with the variables that were significant at the 0.05 level in the initial specification. Next, each non-significant variable was re-entered into the model. If the inclusion of the variable did not result in excessive colinearity with other variables and it increased the variance accounted for by the model, represented by the chi-square statistic, then the variable was retained.

Surprisingly, all variables added to the chi-square of the model when re-entered. Therefore, the revised specification remained unchanged from the initial specification with one exception. LETTER and BLUECHIP were highly correlated, as 55 percent of "blue-chip" athletes were also varsity letter winners. To prevent excessive colinearity, only BLUECHIP was retained in the revised model. The addition of BLUECHIP

accounted for more variance than LETTER based on the relative size of their coefficients and their significance. However, both BLUECHIP and LETTER were significant at the 0.01 level when each was included in the specification without the other.

The revised specification then became:

$$P(\text{VIOLATOR}) = F(\beta_0 + \beta_1 \text{NAPS} + \beta_2 \text{FOUNDN} + \beta_3 \text{BOOST} + \beta_4 \text{GENDER} + \beta_5 \text{AFAMERIC} + \beta_7 \text{HIAMERIC} + \beta_8 \text{OTHRACE} + \beta_9 \text{AQPR} + \beta_{10} \text{MQPR} + \beta_{11} \text{GROUP2} + \beta_{12} \text{GROUP3} + \beta_{13} \text{I} + \beta_{14} \text{N} + \beta_{15} \text{F} + \beta_{16} \text{P} + \beta_{17} \text{BLUECHIP} + \beta_{18} \text{EXCEPT}).$$

The results of the logistic regression of the revised specification are listed in Table 4.3.

The regression results from regression of the revised specification are very similar to those of the initial specification. Due to the exclusion of LETTER, the model's significance decreased slightly. The model chi-square (df=17) decreased from 178.95 in the initial specification to 176.46 in the revised specification, which remained significant at the 0.001 level.

The concordance ratio can be a more definitive measure of a logit regression model's goodness-of-fit than the chi-square statistic. The concordance ratio measures the predictive ability of a model by determining the percentage of cases correctly predicted by the model. Because the base-rate of Honor Concept violation in the sample is 0.108, any midshipman with a calculated probability above 0.108 was predicted to be a violator. Conversely, any midshipman with a calculated probability below 0.108 was predicted not to be a violator. Table 4.4 lists the results of the model's prediction for each midshipman.

Table 4.3
Logistic Regression of the Likelihood of Midshipmen to
Violate the Honor Concept: Revised Specification

Variable	Coefficient	s.e.	t	sig.
GENDER	0.179	0.115	1.554	0.120
NAPS	0.122	0.118	1.033	0.301
FOUNDN	-0.262	0.202	1.299	0.194
BOOST	0.575	0.374	1.535	0.125
AFAMERIC*	0.315	0.148	2.124	0.034
HIAMERIC*	0.350	0.167	2.093	0.036
OTHRACE	0.289	0.171	1.695	0.090
BLUECHIP**	0.281	0.112	2.517	0.012
I*	-0.203	0.088	2.291	0.022
N	0.109	0.091	1.199	0.231
F*	-0.263	0.110	2.384	0.017
P	0.152	0.093	1.629	0.103
AQPR	-0.113	0.089	1.265	0.206
MQPR**	-0.510	0.101	5.051	0.000
GROUP2**	0.390	0.115	3.406	0.001
GROUP3**	0.263	0.102	2.562	0.010
EXCEPT**	0.216	0.105	2.046	0.041
Constant**	-0.624	0.234	2.669	0.008

n=6066

chi-square(df=17)=176.46

* significant at 0.05 level

**significant at 0.01 level

Table 4.4
Concordance Table for the Revised Specification

		Predicted VIOLATOR		Percentage Correct
		0	1	
Observed	0	3005	1943	60.7
VIOLATOR	1	226	423	65.1
				61.2

With a low base-rate of 0.108, the concordance ratio is expected to substantially over-guess violators. Accordingly, 1943 of the 4948 non-violator midshipmen were falsely predicted to be violators. However, the revised specification correctly identified 423 of the 649 actual violators of the Honor Concept in the sample. Overall, the concordance ratio of the revised specification was 0.612, indicating that 61.2 percent of all cases were correctly predicted by the model.

The coefficients and significance of the retained variables changed little in the revised specification. As expected, the variable BLUECHIP absorbed much of the significance from LETTER. BLUECHIP was significant at the 0.05 level in the revised specification. The significance of the variable P decreased slightly and was no longer marginally significant in the revised specification.

AQPR remained non-significant in the revised specification. Based on theory derived from the literature, the non-significance of AQPR was unexpected. Because less-qualified applicants were expected to have lower academic grades, the effects of AQPR and EXCEPT may have been colinearly related. To test for colinearity between EXCEPT and AQPR, an alternate specification was run that excluded EXCEPT. AQPR remained non-significant in this alternate model, suggesting that AQPR's non-significance was not due to possible colinearity from EXCEPT.

Ultimately, the variable EXCEPT remained significant at the 0.05 level. Therefore, the null hypothesis was rejected in favor of the alternate hypothesis. Accounting for other factors known to influence dishonest behavior, being an exception to the admissions standards at USNA increased the likelihood a midshipman would violate the Honor Concept.

E. MARGINAL EFFECTS OF THE VARIABLES

The actual change in the probability of Honor Concept violation was calculated for each variable in the revised specification. The changes in probability were based on a notional midshipman who was constructed by setting the continuous variables to their means and setting the dichotomous variables to zero. The marginal effects were determined by applying the logistic cumulative density function to the coefficients yielded by the logistic regression.

The notional midshipman is a male Caucasian non-athlete, who is a Group 1 major with a 2.751 AQPR and a 3.072 MQPR. He has an ESTJ personality type, did not graduate from any of the preparatory programs, and was not an exception to the admissions standards. The base probability of Honor concept violation by the notional midshipman is 0.0757. Table 4.5 lists each variable in the revised specification, their values for the notional midshipman, changed values, and the resulting change in the probability of violation due to the change in the variable.

The fourth column in Table 4.5 lists the change in the probability of violation due to a specified change in each variable, while holding all other variables equal. For example, if the notional midshipman were changed from a Group 1 major to a Group 2 major, the resulting probability of violation would increase 0.0322, from 0.0757 to 0.1079. Although this increase may appear slight in absolute terms, it represents a 42.6 percent increase in the probability of violation relative to the notional midshipman's probability. The relative change due to each variable is listed in the fifth column of Table 4.5.

Table 4.5
Marginal Effects of Variables

Variable	Notional Value	Changed Value	Change in Probability of Violation	Relative Change from Notional Midn
GENDER	0	1	0.0135	17.9 %
NAPS	0	1	0.0090	11.9 %
FOUNDN	0	1	-0.0164	-21.7 %
BOOST	0	1	0.0513	67.8 %
AFAMERIC*	0	1	0.0252	33.2 %
HIAMERIC*	0	1	0.0284	37.5 %
OTHRACE*	0	1	0.0229	30.2 %
BLUECHIP*	0	1	0.0222	29.3 %
I*	0	1	-0.0130	-17.2 %
N	0	1	0.0080	10.6 %
F*	0	1	-0.0165	-21.7 %
P	0	1	0.0113	15.0 %
AQPR	2.751	2.040	0.0058	7.7 %
MQPR*	3.072	2.512	0.0226	29.8 %
GROUP2*	0	1	0.0322	42.6 %
GROUP3*	0	1	0.0205	27.1 %
EXCEPT*	0	1	0.0165	21.8 %

* denotes variable was significant

The changed values for AQPR and MQPR were chosen to illustrate the change in probability of violation due to a reduction of one standard deviation. Non-significant variables were included in Table 4.5 to show the relative strength of all marginal effects in the model.

The marginal effect of EXCEPT was 0.0165, a relative increase of 21.8 percent over the notional midshipman. In other words, holding all other variables equal, midshipmen who were admissions exceptions were 21.8 percent more likely to violate the Honor Concept than those midshipmen who were not exceptions. This increase in probability of violation was roughly comparable to other established influences on dishonest behavior in college that were included in the model.

F. ANALYSIS OF SPECIFIC TYPES OF EXCEPTIONS

Midshipmen in the sample were identified as admissions exceptions if they failed to meet one or more of four standards: a 600 math SAT, a 600 verbal SAT, a 60,000 candidate multiple, and within the top 40 percent of their high school classes.

Midshipmen who failed to meet each of these admissions standards were identified by the variables MEXCEPT, VEXCPET, CMEXCEPT, and HSEXCEPT.

To test the effect of each of these four types of admissions exceptions, regressions of the revised specification were re-computed four additional times. Each time, EXCEPT was substituted with MEXCEPT, VEXCPET, CMEXCEPT, and then HSEXCEPT. The resulting coefficients, significance, and marginal effects of the substitute variables are listed in Table 4.6. The model chi-squares are also listed for each substitute model specification.

Table 4.6
Substitute Regression Results for MEXCEPT, VEXCEPT, CMEXCEPT, AND HSEXCEPT

	MEXCEPT	VEXCEPT	CMEXCEPT	HSEXCEPT
Coefficient	-0.200	0.043	0.310	0.228
Significance	0.151	0.682	0.005	0.173
Change in Prob.	-0.0073	0.0032	0.0254	0.0183
% Change in Prob.	-10.2	4.0	32.7	23.1
Model Chi-square	174.39	172.47	179.99	174.10

Of the four substitute variables, only CMEXCEPT was significant. The coefficient for CMEXCEPT was 0.310, which was considerably larger than 0.216 for EXCEPT. CMEXCEPT was significant at the 0.01 level, in contrast to the 0.05 level for EXCEPT. This result can be explained by the negative coefficient of MEXCEPT. Because midshipmen identified by MEXCEPT are also included in EXCEPT,

MEXCEPT's negative coefficient lessens the impact of EXCEPT in the revised specification.

Further, when CMEXCEPT was substituted for EXCEPT, the model chi-square increased from 176.46 to 179.99. The larger coefficient size, stronger significance, and increased model chi-square all indicate that CMEXCEPT is a better explanatory variable than EXCEPT. Holding all other variables equal, midshipmen who were exceptions to the candidate multiple minimums were 32.7 percent more likely than other midshipmen to violate the Honor Concept.

G. SUMMARY OF RESULTS

Several influences on the likelihood that a midshipman would violate the Honor Concept were analyzed through logistic regression. The influences of demographics, admissions source, athletic participation, personality type, academic major, academic grades, military grades, and admissions qualifications were examined. The regression results indicated that many of these variables were significant factors in dishonest behavior by midshipmen.

Statistically significant factors included race, personality type, academic major, military performance, and admissions qualifications. Minority midshipmen were found to be more likely to violate the Honor Concept, assuming they are not unfairly "spotlighted" with unjustified scrutiny. Extraverts and "thinking" type midshipmen were also more likely to be violators. Likewise, midshipmen in non-engineering Group 2 and Group 3 majors were more likely to be violators. Poorer military performance was associated with a higher probability that midshipmen had violated the Honor Concept.

Being an exception to USNA admissions standards was found to be a significant factor. This result supports the principal hypothesis of this study, that accounting for other factors, midshipmen who are admissions exceptions are more likely to violate the Honor Concept than other midshipmen. Specifically, being an admissions exception increased a midshipman's likelihood of violation by 21.8 percent, from a notional probability of 0.0757 to a probability of 0.0922. Midshipmen who were exceptions to the candidate multiple minimum were particularly more likely to be violators. However, midshipmen who were exceptions to the math SAT minimum were less likely to be violators, although this result was not statistically significant.

Non-significant factors included gender, admissions source, and academic grades. Although gender was a non-significant factor, its effect was opposite of what was expected. Female midshipmen appeared to have a higher probability of violation than male midshipmen. Admissions sources, such as NAPS, Foundation, and BOOST, were not significant influences. Overall academic grade point average was also found not to be a significant factor.

Several indications support this analysis. Nearly all of the findings were consistent with expectations based on theory and on results from previous studies. The model specification used for regression was substantially significant, and its predictive ability was reasonably accurate.

The next chapter of this study offers possible explanations for the results presented here. Chapter V also discusses the implications of this study's results, focusing on policy recommendations. This thesis then concludes with recommendations for further research.

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V. DISCUSSION AND RECOMMENDATIONS

A. INTRODUCTION

This study examined the individual influences on Honor Concept violators at the United States Naval Academy (USNA). Specifically, this study investigated whether midshipmen who were exceptions to admission standards were more likely to violate the Honor Concept than other midshipmen. This chapter discusses the results of the study, offering possible explanations for each finding. Next, this chapter offers policy recommendations based on the conclusions. Lastly, this chapter suggests areas for further research.

B. CONCLUSIONS OF THE STUDY

1. Admission Source

Admission source was not a significant factor in the likelihood that midshipmen would violate the Honor Concept. Accounting for other factors, neither Naval Academy Preparatory School (NAPS), Foundation, nor Broadened Opportunity for Officer Selection and Training (BOOST) graduates were found to have a significantly different rate of violation than midshipmen who came from high school or civilian college. Although the positive coefficient for NAPS graduates was consistent with expectations, particularly when contrasted with the negative coefficient for Foundation graduates, the results suggest this difference was a chance or random variation in the data.

Although NAPS graduates appeared to violate the Honor Concept more often than other midshipmen (not controlling for other variables), the dominant influences on dishonest behavior are accounted for by other factors rather than by the preparatory

programs themselves. In other words, attendance at NAPS per se does not necessarily result in a stronger tendency towards dishonest behavior. Rather, it seems likely that the dominant influences are factors that cause one to be sent to NAPS rather than immediately admitted, such as low admissions qualifications, academic orientation, or athletic participation.

2. Demographics

Race appears to be a significant influence on the likelihood of violation. For example, controlling for other factors, African-American midshipmen were 33.2 percent more likely than Caucasian midshipmen to be identified as violators. Likewise, Hispanic-American midshipmen were 37.5 percent more likely than Caucasian midshipmen to be identified as violators.

These findings could be due to two possible reasons. First, the differences in rates of violation among races may be attributable to factors not included in this study. Such factors include socio-economic status, high-school quality, parents' education level, and cultural influences such as religion. It is possible that these unmeasured factors disproportionately affect minority midshipmen with respect to honor violations.

Second, members of minority races may be treated differently or perceive to be treated differently. "Spotlighting," in which behavior of minority midshipmen is unfairly scrutinized, is an example of such differential treatment. Although direct evidence of this phenomenon is unavailable and would be extremely hard to detect, the significance of race in the model logically allows for the possibility that spotlighting may occur at USNA.

Based on sex-role socialization theory, females were expected to conform to ethical norms more easily than males. A number of previous studies confirmed this observation. The conflict between this study's results and those of other studies could be due to several reasons. First, this study was unlike most previous studies that investigated gender because it controlled for factors such as personality type and academic major. Second, this study relied on direct observations of behavior and not on self-reported surveys. Perhaps females are less likely to report their own dishonest behavior on surveys. Ward and Beck (1990) found that neutralizing attitudes were far more important for women to cheat than for men. Consequently, females may be more able to break behavioral norms that are strongly emphasized such as the Honor Concept at USNA.

Service academy cultures are unique collegiate environments because they have historically been dominated by masculine and military norms. Roffey's (1998) study of honor code violators at the United States Air Force Academy produced similar results: no statistically significant differences were found between male and female cadets. Service academies may have developed their own sex-role socialization process that is independent of the larger culture. Additionally, self-selection may play a role. It is possible that female applicants to service academies possess characteristics different than those of female applicants to civilian colleges.

3. Personality Type

Previous studies found relationships between personality characteristics and dishonest behavior, but none had specifically studied the Myers-Briggs Personality Indicator (MBTI). Two of the four dimensions of the MBTI were found to be significant

influences on the likelihood of violating the Honor Concept. Specifically, extraverts were 17.2 percent more likely than introverts to be violators, and “thinking” type midshipmen were 21.7 percent more likely than “feeling” type midshipmen to be violators.

An examination of Jungian psychology and the MBTI is beyond the scope of this thesis. However, these patterns are interesting because they show a correlation between dishonest behavior and personality type. Although typologies are useful for categorizing or labeling, and they do not truly explain anything, these results suggest that further research regarding personality attributes and Honor Concept violation may be fruitful.

4. Athletic Participation

“Blue-chip” athletic recruits were significantly more likely to violate the Honor Concept than other midshipmen. Although varsity letter winners were not retained in the revised specification, they were also found to be more likely than other midshipmen to be violators. These results are consistent with other studies that found that participation in athletics, and extra-curricular activities in general, were associated with higher rates of cheating. Participants in extra-curricular activities tend to be oriented less to academics and more to other pursuits. Consequently, extra-curricular participants are more prone to dishonest behavior.

Spotlighting may have biased the apparent increased likelihood of violation by athletes. However, over one fifth of the Brigade of Midshipmen in the sample were varsity letter winners, and many more were non-lettering varsity athletes, junior varsity athletes, or club sports athletes. It seems unlikely that the overwhelming majority of

athletes at USNA stand out enough to invite excessive or unwarranted scrutiny of their behavior.

5. Academic Grades

Several reasons may help explain why academic grades were not significant in the model. First, Academic Quality Point Rating (AQPR) measured overall academic performance throughout a midshipman's career at USNA. Semester grades or one very low grade at the time of the violation may be more predictive measures than overall grades.

Second, academic grades may not be significant because they may only be relevant to one type of Honor Concept violation. They might only be directly relevant to cheating, and might not influence lying and stealing behavior. This relationship may explain why AQPR is not significant but adds to the chi-square of the model.

A third possibility is that the coefficient of AQPR was mitigated by the manner in which academic grades influence violators. Perhaps midshipmen with low enough grades to warrant separation are influenced to cheat, but midshipmen with grades that are minimally acceptable are no more influenced than midshipmen with excellent grades. This non-linear relationship could result in a smaller coefficient and therefore reduce the significance of academic grades in the regression model.

6. Military Performance

Low military grades were strongly associated with Honor Concept violation. Military grades represent a midshipman's attitude toward and acceptance of USNA culture. Previous studies demonstrated the importance of individual attitudes in cheating

behavior. Consequently, military performance may be strong as a predictor because it reflects the attitudinal factors that influence individuals to act dishonestly.

7. Academic Major

Previous studies found that students in majors that are considered vocational, such as business and engineering, are more likely to cheat than students in majors that are considered more scholarly or intellectual, such as English and history. This tendency appears to hold true at USNA, but with a twist. Graduating midshipmen are chosen for a limited number of assignments such as pilots, submariners, or Marines, primarily based on class rank. Therefore, vocationally oriented midshipmen who are competing for these assignments are theoretically more likely to select less demanding majors. The results of the regression supported this explanation. Midshipmen in the less-demanding Group 2 and Group 3 majors were more likely to violate the Honor Concept.

8. Admissions Exceptions

Results from the regression model support the principal hypothesis of this study. Accounting for other factors, midshipmen who were exceptions to admissions standards were indeed more likely to violate the Honor Concept than other midshipmen.

Chapter I hypothesized that this increased likelihood may be due to neutralization. Midshipmen who are not fully qualified to attend USNA are certainly more likely to struggle during their time at Annapolis, so they would be more likely to feel they must lie or cheat just to remain at USNA. Consequently, marginally qualified midshipmen would be more susceptible to neutralization, and more able to justify unethical behavior. This explanation is consistent with the results from this study as well as previous research, but

no definitive conclusions can be made as to why admissions exceptions are more likely to be violators based on this study alone.

Midshipmen who were exceptions to the candidate multiple minimum were particularly more likely to be violators of the Honor Concept. In contrast, being an exception to SAT minimums or high school class rank standards alone were not significantly more likely to be violators. Being a candidate multiple exception is a stronger factor in dishonest behavior than being an admissions exception in general.

Given the highly technical curriculum at USNA, the reverse effect of math SAT exceptions is puzzling. Although not statistically significant, midshipmen who did not have the minimum math SAT score were somewhat less likely than other midshipmen to be violators. This suggests there are components of the candidate multiple other than the math SAT score that demonstrate a particularly strong association with dishonest behavior. Further research is recommended to investigate which components of the candidate multiple are strong predictors of Honor Concept violation and why.

The candidate multiple is USNA's comprehensive estimation of a midshipman's potential for graduation. It is fully expected that midshipmen without strong admissions qualifications would tend to fail academically, or even physically. However, it appears midshipmen with poor qualifications also tend to falter in a less expected way: they are more likely to act dishonorably by violating the Honor Concept.

C. POLICY RECOMMENDATIONS

An immediate benefit of this thesis is that the regression model can identify midshipmen who are "at-risk" to be honor violators. Although it over-guesses, the model can predict which midshipmen will violate the Honor Concept with about 60 percent

accuracy. By increasing the cut-point of the concordance ratio, the model could identify midshipmen who are greatly at-risk, with minimum over-guessing. For example, if the base rate (0.11) is used as the cut-point, the model correctly identifies 432 of 649 violators with 1515 false positives. By adjusting the cut-point to 0.20, the model correctly identifies 119 of 649, but with only 259 false positives.

It would be possible to give additional training and counseling to midshipmen who possess many of the characteristics associated with increased rates of honor violation. However, care should be taken to prevent labeling or categorizing midshipmen as predestined to be dishonest. After all, the model (with a cut-point of 0.20) predicts that less than one in three of those singled out for such training would be expected to be violators in the absence of such training. Such labels may become self-fulfilling. It is left to the USNA Character Development staff to determine if such a strategy is problematic or beneficial.

Additionally, the character development curriculum at USNA could be modified with the results of this study in mind. For example, the case studies that are such a large part of character training at USNA could be designed to reflect many of the attributes of midshipmen most likely to be violators. Case studies about "characters" similar to particular midshipmen may have a greater impact on those midshipmen than case studies with generic characters. Developing case studies and supporting readings that make the processes of neutralization salient for students might help "inoculate" midshipmen against the use of such self-protective cognitive processes.

USNA has well-reasoned intentions for granting many waivers of admissions standards, notably to build a diverse and well-rounded Brigade of Midshipmen. Efforts

to diversify the Brigade are important to USNA's mission; it is essential for the Navy's officer corps to reflect the diverse composition of its enlisted ranks. However, these efforts should be balanced with concerns about the moral character of the Brigade.

Admitting large numbers of other than fully qualified candidates increases the presence of midshipmen who are highly susceptible to violating the Honor Concept. Even if many of the midshipmen vulnerable to honor violation separate from USNA prior to graduation, their presence risks corroding the culture of USNA. A concentration of midshipmen highly vulnerable to violation creates conditions favorable to large-scale conspiratorial honor incidents such as the 1992 electrical engineering cheating scandal. Further, an unknown number of dishonest midshipmen are never detected, then graduate to become naval officers. Policy-makers at USNA should consider these costs of admitting large numbers of under-qualified candidates when balancing other concerns such as building a diverse and well-rounded Brigade.

D. SUGGESTIONS FOR FURTHER RESEARCH

Perhaps the most useful benefit of this study is that it suggests several areas for further research. Using the results from this study, future research regarding the Honor Concept can be more focused on the factors that truly influence the behavior of midshipmen. In particular, the results of this study suggest that further research into personality, race, and attitudes is warranted.

This study uses the MBTI as its measure of personality type simply because the test is given to all midshipmen, and the results are convenient variables for regression. The MBTI may not be the ideal personality instrument for identifying traits associated with moral behavior. However, the significance of two of the four dimensions of the

MBTI suggests there is a systematic relationship between personality characteristics and moral behavior. Other, more sophisticated instruments may yield clearer results when applied in a clearly outlined theoretical context.

An additional area for further research is the factor of race. The regression model used in this study revealed that race was a strong predictor of Honor Concept violation. This result suggests either that members of minority groups do indeed violate the Honor Concept at a higher rate due to influences not measured in the model or that their behavior is unfairly scrutinized. Research designed to discover what those unmeasured influences might be and to investigate the possibility of spotlighting could help defuse a controversial issue.

This study identified and quantified many of the individual influences on Honor Concept violators at USNA. However, precisely how and why these influences interact with the individual attitudes of midshipmen to affect dishonest behavior remains unclear. This study could only investigate personal attitudes through proxy factors, such as major selection and military performance grades.

Questions about how personal attitudes affect dishonest behavior could be addressed by a research survey of personal values that is designed to investigate how individual attitudes directly influence dishonest behavior at USNA. A qualitative study that uses interviews of honor violators would also be useful in understanding the mechanisms involved in dishonest behavior. Although this type of research would rely on self-reported information, it could directly investigate personal attitudes rather than relying on indirect proxy variables. Research on personal attitudes, combined with results from this thesis, would paint a complete portrait of individual influences.

An even more comprehensive portrait could be assembled by also studying contextual influences on dishonest behavior at USNA. The moral development program, including the Honor Concept itself, has undergone significant changes since the 1992 electrical engineering cheating scandal highlighted deficiencies. The effects of the changes in the moral development program at USNA could provide invaluable information to instructors and policy makers at USNA.

E. SUMMARY

This thesis examined the individual influences on Honor Concept violators at the United States Naval Academy (USNA). Specifically, this study found that controlling for other variables, midshipmen who were exceptions to admission standards were more likely to violate the Honor Concept than other midshipmen. Several other influences were found to be significant factors in Honor Concept violation, including: military performance grades, personality type, athletic participation, race, and academic major.

The results of this thesis could be used to improve the character development curriculum at USNA and may have implications for the admissions process. Nearly all of the results support findings from previous studies of academic integrity at other institutions. The mechanisms behind the decision to violate the Honor Concept remain unclear, and further research is warranted to understand why midshipmen choose to lie, cheat, and steal. Hopefully, with a broad understanding of the individual influences, context, and attitudes regarding dishonest behavior, USNA can more effectively promote a culture of integrity.

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